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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/857,424

06/04/2001

Mikiko Matsuo

OGO:079

3359

7590

10/20/2004

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EXAMINER

SANTIAGO, MARICELI

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/857,424

**Applicant(s)**

MATSUO ET AL.

**Examiner**

Mariceli Santiago

**Art Unit**

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 30 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6,8,10-26,28,30,33-47 and 49-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3-6,8,10-21,33-36,40-44 and 49-60 is/are allowed.
- 6) ☒ Claim(s) 2,22-26,37-39 and 45-47 is/are rejected.
- 7) ☒ Claim(s) 28 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Response to Amendment***

The Amendment, filed on July 30, 2004, has been entered and acknowledged by the Examiner.

Cancellation of claims 7, 9, 27, 29, 31, 32 and 48 has been entered.

Claims 1-6, 8, 10-26, 28, 30, 33-47 and 49-62 are pending in the instant application.

### ***Claim Objections***

Claims 33, 34, 37, 40, 42, 43, 45, 52, 53, 54 and 58-60 are objected to because of the following informalities:

Claim 33, 34, 37, 42, 43, 45, 52, 53, 54 and 58-60, line 4, the second repetition of recitation "an anode and a cathode" is redundant and should be deleted.

Claim 40 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 40 recites "the emission region comprises organic matter", the limitation has been previously recited in the independent claim 33.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 2 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for "a substantially successive distribution of concentration from the anode side

Art Unit: 2879

of the emission region toward the cathode side thereof, and a part of the emission region that exhibits a maximum concentration contributable to the emission is away from the anode and the cathode", does not reasonably provide enablement for the further provision of "the concentration reduces [substantially successive] from the one side [higher concentration distribution] toward the other side". The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with this claim.

Claim 2 recites the limitation "the concentration reduces from the one side toward the other side", it is unclear how this limitation can be consistent with the combined limitations previously claimed, i.e., "a substantially successive distribution of concentration from the anode side of the emission region toward the cathode side thereof, and a part of the emission region that exhibits a maximum concentration contributable to the emission is away from the anode and the cathode, and ". While the following limitations can be easily considered in a single embodiment,

ANODE
0
50
90
60
40
CATHODE

Substantially successive distribution of concentration from the anode to the cathode  
Maximum concentration away from the anode and the cathode

Higher distribution of concentration on one side than the other side

not such consideration can be accomplished when including the limitation of "the concentration reduces from the one side [higher distribution of concentration] toward the other side", particularly, as stated in claim 1 the concentration distribution is substantially successive from the anode and cathode sides towards a region of maximum concentration away from the anode and the cathode, thus, a reduction of concentration from a cathode or anode side with a higher distribution concentration towards the other cathode or anode side is not consistent with a substantially successive distribution claimed limitation.

Claims 22 and 23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 22 and 23, recite "wherein said containing comprises dissolving said material contributable to emission in a solvent contained in the medium by steaming", such recitation fails to comply with the written description requirement since dissolving the material contributable to emission in a solvent is not performed by steaming nor the material is dissolved in a solvent contained in the medium, in contrast, the resulting solution, obtained by dissolving a material contributable to emission in a solvent, is steam-coated over and subsequently diffused into the medium, see applicant's disclosure in Page 37, lines 5-19, Figs. 4a-4g.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 37-39 and 45-47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 37 and 45 recite "wherein the emission region comprises material contributable to emission", however, there is no proper antecedent basis for the subject matter in the claims. Moreover, the claims initially recite a charge transport region instead of the emission region. Claims 38, 39, 46 and 47 are rejected for the same reason as presented in claims 37 and 45 because of their dependency status from these claims.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagai et al. (US 5,702,833).

Regarding claim 24-26, Nagai discloses a method of producing a light-emitting device having an emission region between an anode and a cathode, the method comprising locating a medium on an anode or a cathode, and containing material contributable to emission and/or a charge transport material in the medium (Fig. 4, Column 15, lines 41-52).

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 22 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Tang et al. (US 6,066,357).

Regarding claims 22 and 23, Tang discloses a method of producing a light-emitting device having an emission region between an anode and a cathode, the method comprising locating/disposing a medium on an anode or a cathode, and containing material contributable to

Art Unit: 2879

emission in the medium to form the emission region (Figs. 8A-8E, and corresponding description), and wherein the containing is obtained by diffusing a solution<sup>1</sup> containing the material contributable to emission in the medium by steaming (910, Column 11, lines 11-22, Fig. 8E).

### ***Allowable Subject Matter***

Claims 1, 3-6, 8, 10-21, 28, 30, 33-47 and 49-62 are allowed over the prior art of record.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 1 and 5, the inclusion of the allowable subject matter indicated in the previous office action overcomes the rejection of claims 1 and 5. Claims 3-6, 8 and 10 are allowable because of their dependency status from independent claims 1 or 5.

Claims 11-21 are allowable for the same reason stated in the previous office action.

Regarding claim 28, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 28, and specifically comprising the limitation of penetrating the material contributable to the emission and the charge transport material into the medium, so that the materials are contained in the medium.

Regarding claim 30, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 30, and specifically comprising the limitation of bringing a solution comprising material contributable to the emission and the charge transport material dissolved in solvent into contact with the medium, so that the materials are penetrated into the medium.

Regarding claims 33 and 34, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims 33 and 34, and specifically

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<sup>1</sup> The act or process by which a body (whether solid, liquid, or gaseous) is absorbed into a liquid, and, remaining or becoming fluid, is diffused throughout the solvent; also, the product resulting from such absorption

Art Unit: 2879

comprising the limitation of the emission region comprises material contributable to emission and a medium comprising organic material for containing the material, wherein at least one of an anode side of the emission region and a cathode side thereof is made porous.

Regarding claims 35, 36, 40, 41, 50 and 51, claims 35, 36, 40, 41, 50 and 51 are allowable for the reasons given in claim 33 because of their dependency status from claim 33.

Regarding claims 42 and 43, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims 42 and 43, and specifically comprising the limitation of the emission region comprises material contributable to emission and a medium comprising organic material for containing the material, wherein at least one of an anode side of the emission region and a cathode side thereof is roughened.

Regarding claims 44 and 49, claims 44 and 49 are allowable for the reasons given in claim 42 because of their dependency status from claim 42.

Regarding claim 52, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 52, and specifically comprising the limitation of locating a medium comprising organic material on the anode and the cathode, and making at least a part of the medium comprising organic material porous.

Regarding claims 53 and 54, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims 53 and 54, and specifically comprising the limitation of locating a medium comprising organic material on the anode and the cathode, and making at least one of an anode side of the medium comprising organic material and a cathode side thereof porous.

Regarding claims 55-57, claims 55-57 are allowable for the reasons given in claim 53 because of their dependency status from claim 53.

Regarding claim 58, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 58, and specifically comprising the limitation



Art Unit: 2879

of locating a medium comprising organic material on the anode and the cathode, and roughening a part of the medium comprising organic material.

Regarding claims 59 and 60, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims 59 and 60, and specifically comprising the limitation of locating a medium comprising organic material on the anode and the cathode, and roughening at least one of an anode side of the medium comprising organic material and a cathode side thereof.

Regarding claims 61 and 62, claims 61 and 62 are allowable for the reasons given in claim 59 because of their dependency status from claim 59.

### ***Response to Arguments***

Applicant's arguments filed July 30, 2004, in regards to claims 24, 25 and 26 have been fully considered but they are not persuasive.

In regards to claims 24, 25 and 26, applicant argues that the prior art of record, Nagai et al. (US 5,702,833), fails to teach or suggest containing a medium by steaming a solvent in which the material contributable to emission and/or a charge transport material is dissolved. However, it is noted that the features upon which applicant relies (i.e., steaming a solvent) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2879

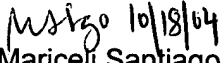
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mariceli Santiago whose telephone number is (571) 272-2464. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Mariceli Santiago  
Patent Examiner  
Art Unit 2879